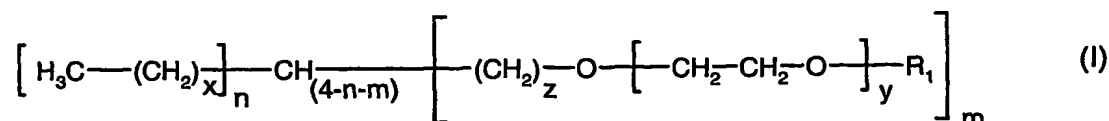


What is claimed is:

1. A process for the preparation of a polyolefin nanocomposite which comprises melt mixing a mixture of a) a polyolefin, b) a filler and c) a non-ionic surfactant.
2. A process according to claim 1, wherein the filler is a natural or synthetic phyllosilicate or a mixture of such phyllosilicates or a layered hydroxycarbonate.
3. A process according to claim 1, wherein the filler is a layered silicate clay or a layered hydroxycarbonate.
4. A process according to claim 1, wherein the filler is a montmorillonite, bentonite, beidelite, mica, hectorite, saponite, nontronite, sauconite, vermiculite, ledikite, magadite, kenyaite, stevensite, volkonskoite, hydrotalcite or a mixture thereof.
5. A process according to claim 1, wherein the non-ionic surfactant is a block or graft copolymer containing a hydrophilic and a hydrophobic segment which do not contain an onium functionality.
6. A process according to claim 5, wherein the hydrophilic segment is a poly(ethylene oxide) block and the hydrophobic segment is a branched or unbranched polyolefin, a fluorocarbon, a siloxane or a low molecular weight methacrylate.
7. A process according to claim 1, wherein the non-ionic surfactant is a sorbitan ester, a dimethylsiloxane-ethylene oxide-block copolymer, a poly(methyl methacrylate)-block-poly(oxyethylene) copolymer or a compound of the formula I



wherein

m is 1 or 2,

n is 1 or 2,

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x is greater than or equal to 1,  
y is greater than or equal to 1,  
z is greater than or equal to 0, and  
R<sub>1</sub> is hydrogen or C<sub>1</sub>-C<sub>25</sub>alkyl.

8. A process according to claim 7, wherein the sorbitan ester is an ester of sorbitol or an ethoxylated sorbitan with a C<sub>12</sub>-C<sub>25</sub>carboxylic acid.

9. A process according to claim 1, wherein the polyolefin is polyethylene or polypropylene or copolymers thereof.

10. A process according to claim 1, wherein the filler is present in an amount of from 1 to 15 %, based on the weight of the polyolefin.

11. A process according to claim 1, wherein the non-ionic surfactant is present in an amount of from 0.1 to 7.5 %, based on the weight of the polyolefin.

12. A process according to claim 1, wherein the melt mixing occurs between 120 and 290°C.

13. A process according to claim 1, comprising in addition, besides components (a), (b) and (c), further additives.

14. A process according to claim 13, comprising as further additives phenolic antioxidants, light-stabilizers, processing stabilizers, pigments, dyes, plasticizers, compatibilizers, toughening agents, thixotropic agents, levelling assistants, acid scavengers and/or metal passivators.

15. A process according to claim 1, wherein the mixture of the filler and the non-ionic surfactant, and where applicable further additives, are added to the polyolefin in the form of a master batch which contains the mixture in a concentration of from 2.5 to 40% by weight.

16. A polyolefin nanocomposite obtained by a process according to claim 1.

**17. A nanocomposite comprising**

- a) a polyolefin which is susceptible to oxidative, thermal or light-induced degradation,
- b) a filler,
- c) a non-ionic surfactant, and
- d) an additive selected from the group consisting of phenolic antioxidants, light-stabilizers, processing stabilizers, pigments, dyes, plasticizers, compatibilizers, toughening agents, thixotropic agents, levelling assistants, acid scavengers and metal passivators or mixtures thereof.

**18. An article from polyolefin nanocomposite prepared according to claim 1.****19. Use of a non-ionic surfactant to intercalate and exfoliate a filler and disperse the filler in a polyolefin matrix to form a nanocomposite.**